Oracle® Retail Regular Price Optimization

User Guide

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Primary Author: Barrett Gaines

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Preface

The Oracle Retail Regular Price Optimization User Guide describes the application's user interface and how to navigate through it.

Audience

This document is intended for the users and administrators of Oracle Retail Regular Price Optimization. This may include pricing analysts and merchandise category managers.

Related Documents

For more information, see the following documents in the Oracle Retail Regular Price Optimization Release 13.0.4 documentation set:

- Oracle Retail Regular Price Optimization Installation Guide
- Oracle Retail Regular Price Optimization Release Notes
- Oracle Retail Regular Price Optimization Implementation Guide

Customer Support

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https://metalink.oracle.com

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to recreate
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

If you are installing the application for the first time, you install either a base release (for example, 13.0) or a later patch release (for example, 13.0.2). If you are installing a software version other than the base release, be sure to read the documentation for each patch release (since the base release) before you begin installation. Patch documentation can contain critical information related to the base release and code changes that have been made since the base release.

Oracle Retail Documentation on the Oracle Technology Network

In addition to being packaged with each product release (on the base or patch level), all Oracle Retail documentation is available on the following Web site (with the exception of the Data Model which is only available with the release packaged code):

http://www.oracle.com/technology/documentation/oracle_ retail.html

Documentation should be available on this Web site within a month after a product release. Note that documentation is always available with the packaged code on the release date.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Getting Started

About Oracle Retail Regular Price Optimization

Oracle Retail Regular Price Optimization (RPO) assists retail price analysts in pricing hard-line and grocery items. It is suited for long lifecycle items with infrequent price changes. It recommends permanent prices and inventory volumes based on initial estimates of an item's total sales volume over a planning period, and on price-related sales of items and related items.

RPO includes grouping in its pricing analysis because it considers cross-item elasticities; that is, RPO considers how price changes for one item may affect the sales volume of other items that belong to the same demand group. Users can input objective functions and pricing constraints that define the optimization problem. Once these inputs are defined, the pricing optimizer recommends prices and associated volumes. What-if cases may also be created and evaluated side by side within the context of a pricing scenario. Once an analysis of the what-if cases and recommended prices is complete, the user can make a final decision to submit the recommended prices for the given set of merchandise items and locations.

Category Optimization

A category of merchandise is defined as a set of similar items that compete for the same dollars within a customer's wallet. Price optimization is usually done at the category or sub-category level. RPO recommends prices at the item level for all the items in a category after fully understanding the halo and cannibalistic relationships between these items.

Goals and Constraints

As part of the RPO planning process, the pricing analyst is trying to achieve a category goal. The category goal is a strategic understanding of the category in the larger plan for the year. RPO can be used to arrive at a category objective. A category manager can run different scenarios (such as improving gross margin vs. improving sales) and arrive at the category objective. This initial strategy could be optimized in detail as part of the RPO process. RPO is also very cognizant of how prices affect consumers and supports extensive business constraints on item prices.

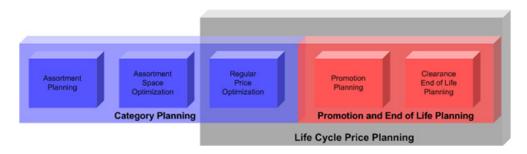
Another important component of the RPO planning process is to strategize against the competition. In this regard, RPO supports price constraints at the item level and also supports optimization goals to maximize the gains against the competition for the entire category.

RPO in the Overall Life Cycle of Price Planning

RPO fits at the intersection of category planning and price planning in a grocery implementation. It is a key step in the Category planning process after the assortment for the current season has been planned. RPO will optimize the price of all the items towards the category objective.

RPO is also the first in a 3 step lifecycle pricing process. It is possible to start with RPO and arrive at demand for the planning horizon by item/store/week. This demand can serve as the baseline demand for the promotion process. Note however that regular price items are usually not heavily promoted. The demand estimate output at the end of the RPO process can be sent to a replenishment system or used as the baseline for the promotion planning process.

Figure 1-1 Life Cycle Price Planning Process



Application Workflow

The following steps describe the workflow of the RPO application:

- Create a demand group.
- Create a planning scope.
- Create a scenario.
- Using the demand group, planning scope, and scenario, perform a price analysis, including what-if scenario experimentation if desired.
- Using the what-if scenarios and the scenarios created by the optimizer, perform a scenario comparison. Select a scenario and submit it for pricing.

Data Workflow

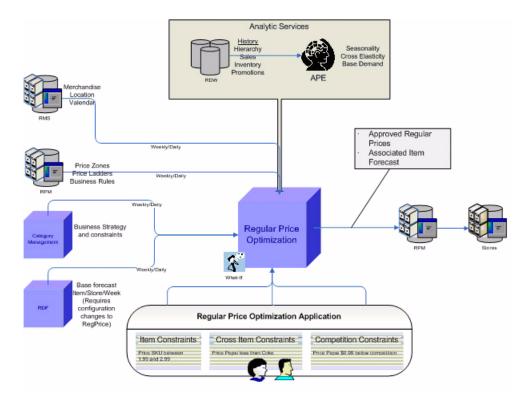


Figure 1–2 Regular Price Optimization Workflow Diagram

Users

RPO users are category managers, pricing analysts, planners, buyers, and merchandisers. In most organizations, price planning is a category management function and is managed by a category manager. The category manager works with a pricing analyst. The pricing analyst is responsible for doing detailed scenario planning and making a recommendation to the category manager for approval. The boundaries of each of their functions vary by organization; therefore, RPO is flexible to support different roles and functions associated with these roles.

The price planning approach is strategic and varies by organizational goal, competition, and category goals, especially in respect to chain or zone level pricing. RPO supports a flexible notion of this plan and allows the user to manage pricing at one, many, or all price zones.

Demand Group Management Workbook

This chapter contains information about managing demand groups. Demand groups are sets of items that have their prices determined by cross-item elasticities between items within the group. Use the Demand Group Management workbook to examine, create, and alter demand group definitions.

Overview

The Demand Group Management workbook contains two worksheets:

- Create/Modify/Delete worksheet
- Item-Demand Group Assignment worksheet

Building the Demand Group Management Workbook

To build the Demand Group Management Workbook, begin by starting the Demand Group Management wizard as follows:

- **1.** Click **File New** or click the **New** toolbar button.
- From the **RegPrice** tab, select the **Demand Group Management** workbook and click **OK**. The Demand Group Management wizard opens.
- Select demand group(s). Click **Next**.
- Select categories to add to your demand group.
- Click **Finish** to build the workbook.

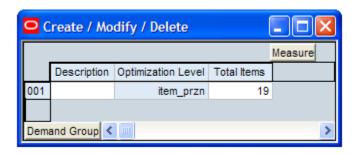
Create/Modify/Delete Worksheet

This worksheet is used to create, modify, or delete a demand group with the use of DPM.

Table 2–1 Create/Modify/Delete Demand Group Worksheet Measures

Measure(s)	Description
Description	Stores the description for the demand group.
Optimization Level	Stores the optimization level for the demand group.
Total Items	A read-only, calculated measure. Stores the total number of items in the demand group.

Figure 2-1 Create/Modify/Delete Demand Group Worksheet



Creating a Demand Group

To create a demand group:

- 1. From the Create/Modify/Delete Demand Groups worksheet, right-click the Demand Group hierarchy and select Maintain Positions - Add Position.
- In the Dynamic Position Maintenance window, click in the **Demand Group** field. The Position Description window will appear. Enter a position label and position name. The position name must be unique; the position label is a useful description of the demand group. Click **OK**.
- 3. In the Optimization Level field, double-click the field and choose an optimization level from the list.
- Click **Calculate**.
- From the **File** menu, select **Commit Now**.

Modifying a Demand Group

You can modify the optimization level for existing demand groups. To edit this field, perform the following:

Note: Changes to demand groups that are referenced in other workbooks will cause those workbooks to become invalid.

- 1. From the Create/Modify/Delete Demand Groups worksheet, click the **Optimization Level** field.
- **2.** Use the list to select a new level.
- 3. Click Calculate.
- From the **File** menu, select **Commit Now**.

Deleting a Demand Group

Note: If you delete a demand group that is referenced in another workbook, the workbook will become invalid.

You may only delete demand groups that were added using DPM.

To delete a demand group:

- 1. From the Create/Modify/Delete Demand Groups worksheet, right-click the Demand Group hierarchy and select Maintain Positions - Delete Position.
- 2. Select a demand group to remove. Click **OK**.

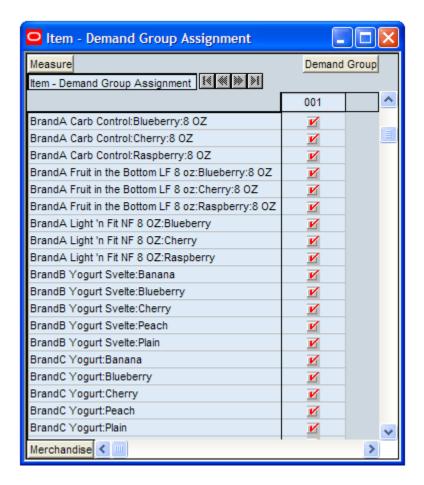
Item - Demand Group Assignment Worksheet

This worksheet is used to examine or modify item assignment for all existing demand groups.

Table 2–2 Item - Demand Group Assignment Worksheet Measures

Measure	Description
Item-Demand Group Assignment	This measure is used to associate items with demand groups.

Figure 2-2 Item - Demand Group Assignment Worksheet



Associating Items with Demand Groups

To associate an item with a demand group:

- 1. Open the Item Demand Group Assignment worksheet.
- You can associate items individually to a demand group or you can use the Select Rollup feature available in the right-click menu.
 - To select items individually, select the check boxes located next to the items you want to include in your demand group.
 - To use the rollup feature, right-click the Merchandise hierarchy. Click **Select** Rollup and then select the merchandise hierarchy level at which to assign items.
- 3. Click Calculate.
- **4.** From the **File** menu, select **Commit Now**.

Planning Scope Management Workbook

The Planning Scope Management workbook is used to define a planning scope for which the user intends to perform price analysis. A planning scope identifies the beginning and end dates during which the price change will be effective. It also identifies the zones associated with the price change.

Overview

This workbook is used to create planning scopes. A planning scope is defined by its combination of demand groups, price zones, and selling period. Items within a demand group may be sold across multiple price zones. Therefore, the optimization goals, constraints, price zones, and selling periods may all differ as well. A planning scope must be defined for a demand group in order to begin the price analysis and scenario comparison process.

The Planning Scope Management workbook contains two worksheets:

- Create/Modify/Delete worksheet
- Price Zone Assignment worksheet

Building the Planning Scope Management Workbook

To build the Planning Scope Management workbook, begin by using the Planning Scope Management wizard as follows:

- Click **File New** or click the **New** toolbar button.
- From the **RegPrice** tab, select the **Planning Scope Management** workbook.
- Click **OK**. The Planning Scope Management wizard opens.
- Select a demand group. Click **Next**.
- Select a planning scope.
 - If a planning scope does not exist, a sample planning scope, "Example," is provided. Select this planning scope to continue. After entering the Planning Scope worksheet, you must to create your own planning scope using DPM. The example planning scope is not usable.
 - If one or more planning scopes exist for the selected demand group, the wizard will display all of the associated planning scopes. Select at least one.
- **6.** Click **Finish**.

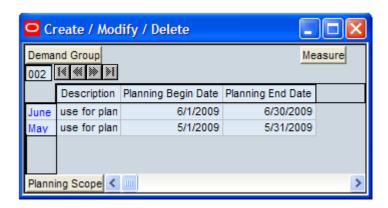
Create/Modify/Delete Planning Scopes Worksheet

This worksheet is used to create a planning scope with the use of DPM. All planning scopes created within this worksheet are automatically assigned to the demand group in context.

Create/Modify/Delete Planning Scope Worksheet Measures Table 3–1

Measure	Description
Description	User-defined description of the planning scope.
Planning Begin Date	The begin date for the planning scope.
Planning End Date	The end date for the planning scope.

Figure 3-1 Create/Modify/Delete Planning Scope Worksheet



Creating a Planning Scope

To create a planning scope:

- From the Create/Modify/Delete worksheet, right-click in the Planning Scope hierarchy, and select Maintain Positions — Add Positions.
- In the **Dynamic Position Maintenance** window, click in the **Planning Scope** field. The **Position Description** window will appear. Enter a position label and position name. The position name must be unique; the position label is a useful description of the planning scope. Click **OK** to return to the worksheet.
- In the **Planning Begin Date** field, enter a begin date for the planning scope.
- In the **Planning End Date** field, enter an end date for the planning scope.
- Click Calculate.
- From the **File** menu, select **Commit Now**.

Modifying an Existing Planning Scope

Note: If you modify a planning scope that is referenced within another workbook, the workbook will become invalid.

To modify an existing planning scope:

- From the Create/Modify/Delete worksheet, locate the planning scope you wish to modify.
- Click any of the following fields to change their values: **Begin Date**, **End Date**, or Description.
- For example, to change the planning scope's name or label:
 - Right-click the Planning Scope hierarchy. Select Maintain Positions Modify Positions.
 - From the list of planning scopes, select the planning scope for which you would like to change the name. Click **OK**.
 - c. Click once on the Planning Scope field. The Position Label and Position Name fields open.
 - **d.** In the **Position Label** and **Position Name** fields, enter a new name for the planning scope. Click **OK** to return to the worksheet.
- Click Calculate.
- From the **File** menu, select **Commit Now**.

Deleting a Planning Scope

Note: You can only delete planning scopes that were created using DPM.

Note: If you modify a planning scope that is referenced within another workbook, the workbook will become invalid.

To delete a planning scope:

- From the **Create/Modify/Delete** worksheet, right-click the Planning Scope hierarchy.
- Select Maintain Positions Delete Position.
- In the **Select Planning Scope** window, select the planning scope you wish to delete and click OK.
- Click Calculate.
- From the **File** menu, select **Commit Now**.

Price Zone Assignment Worksheet

This worksheet is used to assign price zones to planning scopes.

Table 3–2 Price Zone Assignment Worksheet Measures

Measure	Description
Price Zone - Planning Scope Assignment	Specifies the price zones that are associated with each planning scope.

Figure 3–2 Price Zone Assignment Worksheet



Assigning Price Zones to a Planning Scope

To assign a price zone to a planning scope:

- 1. From the Planning Scope Management workbook, select the Price Zone worksheet.
- 2. Locate the planning scope you recently added in the previous section or make adjustments to an existing planning scope.
- From the available price zones, select the check boxes of the price zones you wish to include in your planning scope.
- Click Calculate.
- From the **File** menu, select **Commit Now**.

Scenario Management Workbook

This chapter contains information regarding the Scenario Management workbook. A scenario is an analysis of a pricing problem. In a scenario, the user proceeds toward a particular optimization goal by following certain business constraints. Using the Scenario Management workbook, a pricing analyst can create one or many scenario for a given demand group and planning scope and then compare these scenarios.

Overview

The Scenario Management workbook contains two worksheets:

- Create/Modify/Delete worksheet
- Copy worksheet

Building the Scenario Management Workbook

To build the Scenario Management workbook, begin by starting the Scenario Management wizard:

- Click **File New** or click the **New** button from the toolbar.
- From the **RegPrice** tab, select **Scenario Management** and click **OK**. The Scenario Management wizard opens.
- Select a demand group. Click **Next**.
 - If no demand groups exist, the wizard will exit.
- **4.** Select a planning scope. Click **Next**.
 - If no planning scopes exist, the wizard will exit and inform you that you first need to create and commit a planning scope before using the workbook.
- Create or select a scenario.
 - If a scenario does not exist for the chosen demand group and planning scope, a sample scenario, "Example," is provided. Select this position to continue building the workbook.

Note: After entering the workbook, you must create your own scenario. This scenario will be required to build the Price Analysis workbook later.

- If one or more scenarios exist for the selected demand group and planning scope, the wizard will display another wizard that lists the scenarios associated with the selected demand group and planning scope. Select at least one scenario to continue.
- 6. Click Finish.

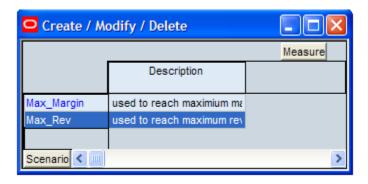
Create/Modify/Delete Worksheet

This worksheet is used to create, modify, or delete a scenario with the use of DPM.

Table 4–1 Create/Modify/Delete Scenarios Worksheet Measures

Measures	Description
Description	User-defined description of the scenario.

Figure 4–1 Create/Modify/Delete Scenarios Worksheet



Creating Scenarios

To create a scenario:

- From the **Create/Modify/Delete** worksheet, right–click the Scenario hierarchy. Select Maintain Position — Add Position.
- In the **Dynamic Position Maintenance** window, click the **Scenario** field. The **Position Description** window appears. Enter a position label and position name. The position name must be unique; the position label is a useful description of the scenario. Click **OK** to return to the worksheet.
- In the **Create/Modify/Delete** worksheet, enter a description of the new scenario.
- Click **Calculate**.
- From the **File** menu, select **Commit Now**.

Modifying Existing Scenarios

Note: If you modify a scenario that is referenced within another workbook, the workbook will become invalid.

To modify a scenario:

- From the Create/Modify/Delete worksheet, locate the scenario you wish to modify.
- Click the **Description** field to enter a new description.
- To change the scenario's name or label:
 - Right-click the Scenario hierarchy. Select Maintain Positions Modify Positions.
 - From the list of scenarios, select the scenario you wish to modify. Click **OK**.
 - In the **Dynamic Position Maintenance** window, click in the **Scenario** field. The **Position Description** window appears.
 - **d.** Enter a position label and position name. The position name must be unique; the position label is a useful description of the scenario.
 - Click **OK** to return to the worksheet.
- Click **Calculate**.
- From the **File** menu, select **Commit Now**.

Deleting Scenarios

Note: You may only delete scenarios that were created using DPM.

Note: If you modify a scenario that is referenced within another workbook, the workbook will become invalid.

To delete a scenario:

- From the **Create/Modify/Delete** worksheet, right–click the Scenario hierarchy.
- Select Maintain Positions Delete Position.
- In the **Select Scenario** window, select the scenario you wish to delete. Click **OK** to return to the worksheet.
- Click Calculate.
- From the **File** menu, select **Commit Now**.

Copy Worksheet

This worksheet is used to perform a deep copy from one scenario to another.

Table 4–2 Copy Scenario Worksheet Measures

Measures	Description
Copy From	The source scenario you wish to copy.
Сору То	The destination scenario.

Figure 4-2 Copy Scenario Worksheet



Copying Scenarios

Note: You cannot use the "Example" scenario as either a source or destination scenario.

To copy a scenario:

- 1. Click the Copy From field. In the Select Scenario window that appears, select a source scenario. Click OK.
- 2. Click the Copy To field. In the Select Scenario window that appears, select a source scenario. Click **OK**.
- Click Calculate.
- From the **File** menu, select **Commit Now**.

Price Analysis Workbook

The Price Analysis workbook is used to analyze a scenario. The workbook provides the ability to specify pricing constraints, optimize prices, override optimizer recommendations, specify a business goal, and analyze the effect of price changes on decision variables such as gross margin and revenue.

Overview

The tabs contained within the Price Analysis workbook are outlined below. The worksheets available within each tab are outlined as well.

- Global Goals and Constraints tab
 - Global Goals and Constraints worksheet
- Item Groups tab
 - Create/Modify/Delete worksheet
- Item Constraints tab
 - Item Level worksheet
 - Item Group Level worksheet
- Inter-Item Constraints tab
 - Item Level worksheet
 - Item Group Level worksheet
 - Item Link Groups Overrides worksheet
- Competition Constraints tab
 - Item Level worksheet
 - Item Group Level worksheet
 - Item Competition Item Linkage worksheet
 - Competition Item Metrics worksheet
 - Linked Competition Prices worksheet
- Price Ladders tab
 - Price Points worksheet
- Diagnostics tab
 - Optimization/Verification Response worksheet

- Violated/Relaxed Items worksheet
- Violated/Relaxed Item Level Item-Specific Constraints worksheet
- Violated/Relaxed Item Group Level Item-Specific Constraints worksheet
- Violated/Relaxed Item Level Inter-Item Constraints worksheet
- Violated/Relaxed Item Group Level Inter-Item Constraints worksheet
- Violated/Relaxed Item Level Competition Constraints worksheet
- Violated/Relaxed Item Group Level Competition Constraints worksheet
- Recommendations and What-If tab
 - Global Metrics worksheet
 - Detail Metrics worksheet
 - What-If Selection for Scenario worksheet
 - Price Entry worksheet
 - Cross Item Elasticities worksheet

Building the Price Analysis Workbook

In order to build the Price Analysis workbook, you must use the Price Analysis wizard. To use the wizard:

> **Note:** You must have a demand group, planning scope, and scenario created in order to use the Price Analysis workbook.

- 1. Select **File New** or click the **New** toolbar button.
- From the **RegPrice** tab, select **Price Analysis**. Click **OK** to open the Price Analysis wizard. The Price Analysis wizard opens.
- 3. Select a demand group. Click Next.
- 4. Select a planning scope. Click Next
- **5.** Select a scenario.
- Click **Finish** to open the Price Analysis workbook.

Global Goals and Constraints Tab

Use this tab to specify the global goals and constraints for a scenario by defining the variables for the objective function. On the Global Goals and Constraints tab, the Global Goals and Constraints worksheet can be used to enter the various parameters used to define the optimization goals for a given scenario.

Global Goals and Constraints Worksheet

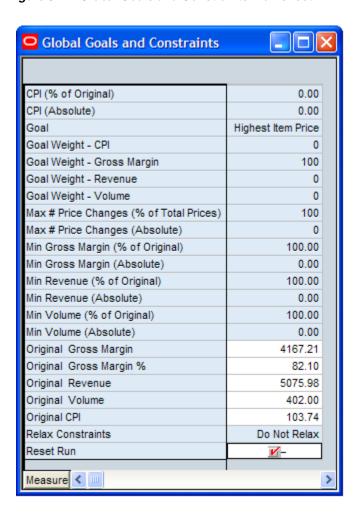
Global Goals and Constraints Worksheet Measures

Measure	Description
CPI (% of Original)	CPI represents the ratio of revenue that would be generated by a pricing scenario's pricing to the average pricing of competitor items.
	CPI is expressed to the base of 100%, where100% represents the current ratio. For example, for a 10% improvement against a competitor, enter 110%.
CPI (Absolute)	CPI represents the ratio of revenue that would be generated by a pricing scenario's pricing to the average pricing of competitor items.
	CPI is expressed as a dollar amount difference between your revenue and the revenue based on your competitor's price.
Goal	Stores the enumeration value to identify the objective function for price optimization. There are five possible options for Goals: Highest Item Price, CPI, Gross Margin Dollars, Revenue, and Volume.
	Note that choosing Highest Item Price as the goal instructs RPO to find the highest item price that satisfies all of the constraints. No elasticities are considered for this option.
Goal Weight—CPI	Stores the weight for the CPI objective function component in case a combination is being used. If a combinatorial objective is not used, the value is ignored.
Goal Weight—Gross Margin	Stores the weight for the Gross Margin objective function component in case a combination is being used. If a combinatorial objective is not used, the value is ignored.
Goal Weight—Revenue	Stores the weight for the Revenue objective function component in case a combination is being used. If a combinatorial objective is not used, the value is ignored.
Goal Weight—Volume	Stores the weight for the Volume objective function component in case a combination is being used. If a combinatorial objective is not used, the value is ignored.
Max # of Price Changes (% of Total Prices)	Stores the entry for the maximum number of price change recommendations that the optimizer is allowed to make. This value is treated as a percent and should never be greater than 100.
Max # of Price Changes (Absolute)	Stores the entry for the maximum number of price change recommendations that the optimizer is allowed to make.
Min Gross Margin (% of Original)	Stores the entry for the minimum gross margin that the user wants the optimizer to achieve. The minimum percentage is expressed to the base of 100%, where 100% is calculated using the current price. If a 10% improvement is desired, the user should enter 110%.
Min Gross Margin (Absolute)	Store the entry for the minimum gross margin dollars that the user wants the optimizer to achieve.

Table 5–1 (Cont.) Global Goals and Constraints Worksheet Measures

Measure	Description
Min Revenue (% of Original)	Stores the entry for the minimum revenue that the user wants the optimizer to achieve. The minimum percentage is expressed to the base of 100%, where 100% is calculated using the current price. If a 10% improvement is desired, the user should enter 110%.
Min Revenue (Absolute)	Stores the entry for the minimum revenue that the user wants the optimizer to achieve.
Min Volume (% of Original)	Stores the entry for the minimum volume that the user wants the optimizer to achieve. The minimum percentage is expressed to the base of 100%, where 100% is calculated using the current price. If a 10% improvement is desired, the user should enter 110%.
Min Volume (Absolute)	Stores the entry for the minimum volume that the user wants the optimizer to achieve.
Original Gross Margin	The gross margin based on the current prices. This is a read-only field.
Original Gross Margin %	The gross margin expressed as a percentage ratio of (revenue - cost)/cost, based on the current prices. This is a read-only field.
Original Revenue	The revenue based on the current prices. This is a read-only field.
Original Volume	The volume based on the current prices. This is a read-only field.
Original CPI	The current CPI (Competitor Price Index). This is a read-only field.
Relax Constraints	Specifies the level to which range and inter-item constraints are enforced by the solver. The choices are as follows:
	Relax Hard and Soft : the solver will try to accommodate all types of constraints. If it cannot find a feasible solution, it will relax the inter-item constraints and soft range constraints until it finds one. Note: the hard range constraints are never relaxed.
	Relax Soft : the solver will try to accommodate all types of constraints. If it cannot find a feasible solution, it will relax soft constraints only.
	Do Not Relax : the solver will enforce both hard and soft constraints absolutely. If it cannot find a feasible solution, the solver will return an error message.
Reset Run	If selected, the solver will not consider the current recommended price when calculating the price. If not selected, the solver will start from the current recommended price to find a better solution.

Figure 5-1 Global Goals and Constraints Worksheet



Item Groups Tab

Item groups are logical groupings of items within a demand group. The item groups tab allows users to create, modify, or delete item groups. There are two worksheets contained within this tab:

- Create/Modify/Delete worksheet
- Item Assignment worksheet

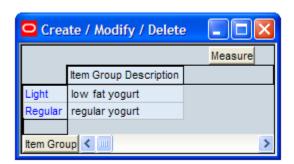
Create/Modify/Delete Worksheet

This worksheet is used to create and delete item groups with the use of DPM. You may also use this worksheet to add, modify or delete descriptions of item groups.

Table 5–2 Create/Modify/Delete Item Groups Worksheet Measures

Field	Description
Item Group Description	Stores the description of an item group.

Figure 5–2 Create/Modify/Delete Item Groups Worksheet



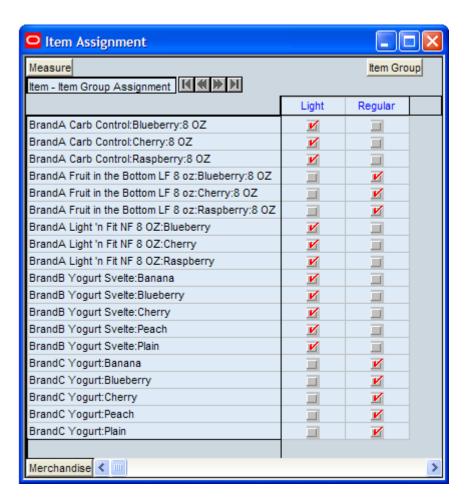
Item Assignment Worksheet

This worksheet is used to assign items to item groups. Pricing analysts can manually select items using selecting the item group check boxes next to the items.

Table 5–3 Item Assignment Worksheet Measures

Measure	Description
Item - Item Group Assignment	Stores the mapping between an item group and items in the form of a Boolean mask.

Figure 5-3 Item Assignment Worksheet



Item Constraints Tab

This tab is used to create, delete, and modify item constraints related to individual items. This tab contains two worksheets:

- Item Level worksheet
- Item Group Level worksheet

Item Level Worksheet

This worksheet is used to enter constraints for individual items.

Table 5-4 Item Level Worksheet Measures

Measure	Description
Apply Min/Max Margin	Select this option to allow the margin constraints to be applied.
Apply Min/Max Price	Select this option to allow the price range constraints to be applied. If selected, the user must enter values for the Min and Max prices.
Label	User-defined description of the item constraint.
Margin Constraint Level	Defines the level of relaxation for the margin constraint.
	The available options are defined by the Relax Constraints measure in the Global Goals and Constraints Worksheet in the Price Analysis workbook.
Max% Price Change	The maximum price change allowed as a percent of the current price.
Max Margin	The maximum margin allowed for an item.
Max Price	The maximum price allowed for an item.
Min Margin	The minimum margin allowed for an item.
Min Price	The minimum price for an item.
Original Price	This is read-only field for your reference.
Price Constraint Level	Defines the level of relaxation for the range constraint.
	The available options are defined by the Relax Constraints measure in the Global Goals and Constraints Worksheet in the Price Analysis workbook.
Price Hold	Flag if there is a price hold constraint on the current price.
Price Ladder	The user's choice of price ladder. All items should be assigned a price ladder.
Treat Min/Max Price as %	Select this option if the minimum and maximum prices should be treated as a percentage rather than an absolute value.

Figure 5-4 Item Level Worksheet



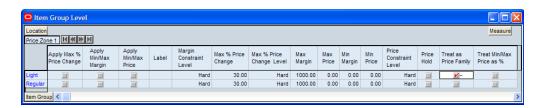
Item Group Level Worksheet

This worksheet is used to enter constraints for item groups.

Table 5-5 Item Level Worksheet Measures

Measure	Description
Apply Min/Max Price Change	Select this option to allow the price constraints to be applied.
Apply Min/Max Margin	Select this option to allow the margin constraints to be applied.
Apply Min/Max Price	If selected, the user must enter values for the Min and Max prices.
Label	User-defined description of the item constraint.
Margin Constraint Level	Defines the level of relaxation for the margin constraint.
	The available options are defined by the Relax Constraints measure in the Global Goals and Constraints Worksheet in the Price Analysis workbook.
Max% Price Change	The maximum price change allowed as a percent of the current price.
Max % Price Change Level	Defines the level of relaxation for the price change constraint.
	The available options are defined by the Relax Constraints measure in the Global Goals and Constraints Worksheet in the Price Analysis workbook.
Max Margin	The maximum margin allowed for an item.
Max Price	The maximum price allowed for an item.
Min Margin	The minimum margin allowed for an item.
Min Price	The minimum price for an item.
Price Hold	Flag if there is a price hold constraint on the current price.
Price Constraint Level	Defines the level of relaxation for the range constraint.
	The available options are defined by the Relax Constraints measure in the Global Goals and Constraints Worksheet in the Price Analysis workbook.
Treat as Price Family	Flag if the item group is to be treated as a price family.
Treat Min/Max Price as %	Select this option if the minimum and maximum prices should be treated as a percentage rather than an absolute value.

Figure 5-5 Item Group Level Worksheet



Inter-Item Constraints Tab

This tab provides three worksheets that are used to create, modify, and delete inter-item constraints at the item and item group levels. These worksheets also provide the ability to disable constraints without having to delete them.

- Item Group Level worksheet
- Item Level worksheet
- Item Link Group Overrides worksheet

Item Group Level Worksheet

This worksheet is used to enter inter-item constraints at the item group level. Constraints that are placed between item groups are later translated to the item level using the item link groups. Similar to item level constraints, multiple constraints can be entered that have the same item group on the LHS (left hand side) and/or the RHS (right hand side).

Table 5-6 Item Group Level Worksheet Measures

Measure	Description
Apply Constraint	Select this option to allow the item group constraints to be applied.
Constraint Level	Defines the level of relaxation for the item group constraint.
	The available options are defined by the Relax Constraints measure in the Global Goals and Constraints Worksheet in the Price Analysis workbook.
Item Link Group to Use	Specifies the item link group (and therefore that item group's constraints) that the item will adhere to. The item group's constraints are aggregated to the item level.
Label	The user-defined description of the constraint.
LHS Item Group	The item identifier for the LHS item group in the inter–item constraint.
LHS Multiplier	The LHS Unit of Measure (UOM) multiplier for the inter–item constraint.
Operator	The operator that relates the LHS with the RHS.
Reset Constraint Override	If selected, overrides are removed when the worksheet is calculated.
RHS Constant	The RHS constant in the inter-item constraint.
RHS Item Group	The item identifier for the RHS item group in the inter-item constraint.
RHS Multiplier	The RHS Unit of Measure (UOM) multiplier for the inter-item constraint.
Туре	Specifies the constraint type. This field determines how relationships are handled between items. Relationships can be defined according to item, UOM, or EUOM.
	Item: item to related item (Brand X pen to Brand Y pen)
	UOM: unit of measures (24-pack to 6-pack)
	EUOM: equivalent units (24.6 oz. to 32.8 oz.)

Figure 5-6 Item Group Level Worksheet



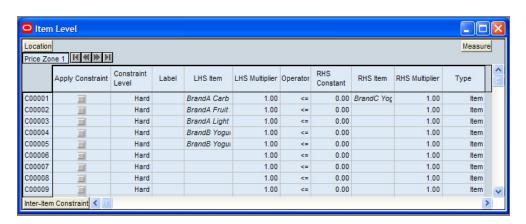
Item Level Worksheet

This worksheet is used to enter inter-item constraints at the item level. Analysts can enter multiple constraints that have the same item on the LHS (left hand side) and/or the RHS (right hand side).

Table 5-7 Item Group Level Worksheet Measures

Measure	Description
Apply Constraint	Select this option to allow the inter-item constraints to be applied.
Constraint Level	Defines the level of relaxation for the item constraint.
	The available options are defined by the Relax Constraints measure in the Global Goals and Constraints Worksheet in the Price Analysis workbook.
Label	The user-defined description of the constraint.
LHS Item	The item identifier for the LHS item in the inter-item constraint.
LHS Multiplier	The LHS Unit of Measure (UOM) multiplier for the inter–item constraint.
Operator	The operator that relates the LHS with the RHS.
RHS Constant	The RHS constant in the inter-item constraint.
RHS Item	The item identifier for the RHS item in the inter-item constraint.
RHS Multiplier	The RHS Unit of Measure (UOM) multiplier for the inter-item constraint.
Туре	Specifies the constraint type. This field determines how relationships are handled between items. Relationships can be defined according to item, UOM, or EUOM.
	Item : item to related item (Brand X pen to Brand Y pen)
	UOM: unit of measures (24-pack to 6-pack)
	EUOM: equivalent units (24.6 oz. to 32.8 oz.)

Figure 5-7 Item Level Worksheet



Item Link Group Overrides Worksheet

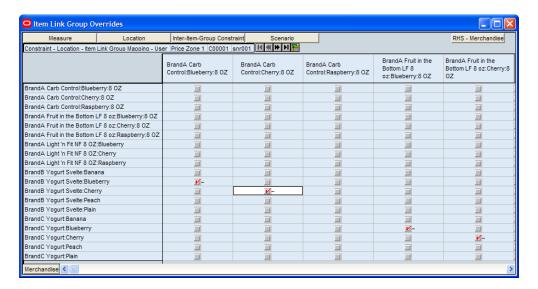
This worksheet is used to examine and override item linkages for inter-item constraints at the item group level. Inter-item link groups define the item to item relationship between two item groups. This relationship determines the item interconnections where the constraint will be applied.

For each constraint at each location, a cross grid shows the LHS items and RHS items with check marks establishing the linkage between items on both sides. Users can override relationships by removing the checks between items. Relationships can be reestablished by adding a check to the check box.

Table 5–8 Item Link Group Overrides Worksheet Measures

Measure	Description
	The mapping between LHS items and RHS items for each item link group for a given constraint at a particular location. This mapping is used to translate item group level constraints to the item level for the optimizer.

Figure 5-8 Item Link Group Overrides Worksheet



Competition Constraints Tab

This tab is used to specify competition constraints. Competition constraints can be specified at the item level or at the item group level. This tab contains five worksheets:

- Item Level worksheet
- Item Group Level worksheet
- Item Competition Item Linkage worksheet
- Competition Item Metrics worksheet
- Linked Competition Prices worksheet

Item Level Worksheet

This worksheet is used to specify item level competition constraints. Multiple constraints can be written between the same item and the same competitor.

Table 5-9 Item Level Worksheet Measures

Measure	Description
Apply Constraint	Indicates whether the constraint is applicable for the optimization run.
Competitor	The competitor with whom the particular item is competing.
Constant	The RHS constant.
Constraint Level	Defines the level of relaxation for the competition item constraint.
	The available options are defined by the Relax Constraints measure in the Global Goals and Constraints Worksheet in the Price Analysis workbook.
Item	The LHS Item for the item level competition constraint.
Label	User-defined description of the item.
Multiplier	The RHS multiplier for the competition price.
Operator	The comparison operator to relate a retailer's item to the competition.

Figure 5-9 Item Level Worksheet



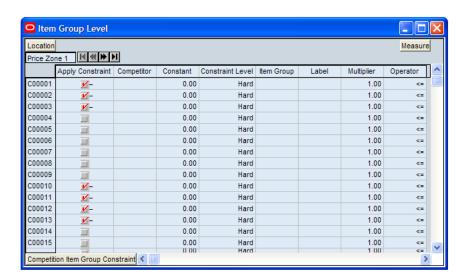
Item Group Level Worksheet

This worksheet is used to specify competition constraints at an item group level. Constraints are specified using the same parameters as those that are at the item level.

Table 5–10 Item Group Level Worksheet Measures

Measure	Description
Apply Constraint	Indicates whether the constraint is applicable for the optimization run.
Competitor	The competitor with whom the particular item is competing.
Constant	The RHS constant.
Constraint Level	Defines the level of relaxation for the item group constraint.
	The available options are defined by the Relax Constraints measure in the Global Goals and Constraints Worksheet in the Price Analysis workbook.
Item Group	The LHS item for the item level competition constraint.
Label	User-defined description of the item.
Multiplier	The RHS multiplier for the competition price.
Operator	The comparison operator to relate retailer's item to the competition.

Figure 5-10 Item Group Level Worksheet



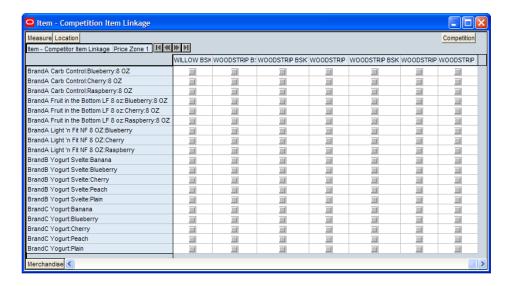
Item - Competition Item Linkage Worksheet

This worksheet is used to examine the linkage between the retailer's items and the competition's items. This worksheet cannot be used to modify or override linkages.

Item—Competition Item Linkage Worksheet Measures

Measure	Description
Item - Competitor Item Linkage	The linkage between competitor's item(s) and retailer's item.

Figure 5-11 Item Competition Item Linkage Worksheet



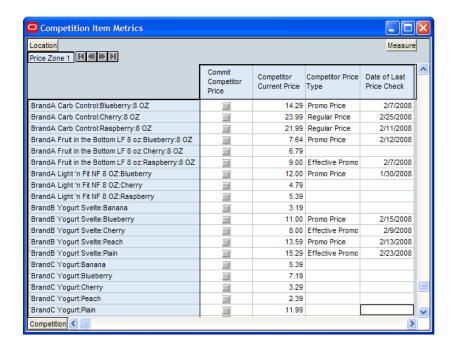
Competition Item Metrics Worksheet

This worksheet is used to examine pricing metrics for competitor items according to current price, the last date when the current price was checked, and the type of price.

Table 5–12 Competition Item Metrics Worksheet Measures

Measure	Description
Commit Competitor Price	Select this option to override the previous competitor price with the price you entered in the Competitor Current Price field.
Competitor Current Price	The current price of the competitor item at a particular location. You may update this by editing the field.
Competitor Price Type	User this field to note the price type for the current price (promotional, regular price, etc.).
Date of Last Price Check	The last date the price was checked.

Figure 5-12 Competition Item Metrics Worksheet



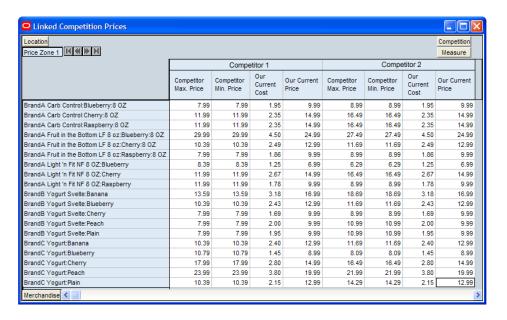
Linked Competition Prices Worksheet

This worksheet is used to compare the retailer's item's original price with the linked items of other competitors. Since each retailer's item could be linked with more than one item of the same competitor, this worksheet displays the range of competitor prices by listing both a minimum and maximum price.

Table 5-13 Linked Competition Prices Worksheet Measures

Measure	Description
Competitor Max. Price	Competitor's maximum price for all linked items.
Competitor Min. Price	Competitor's minimum price for all linked items.
Our Current Cost	Item's cost to the retailer.
Our Current Price	Retailer's current price.

Figure 5-13 Linked Competition Prices Worksheet



Price Ladders Tab

This tab is used to manage price ladders. Price ladders created in this tab are independent of scenarios and can be used with any scenario. Price point - price ladders are expressed as a list of prices in RPO. Items can be assigned to only one price ladder at a time.

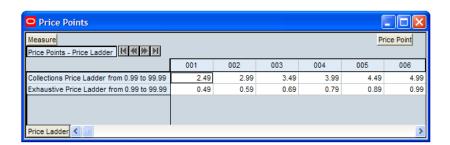
Price Points Worksheet

This worksheet is used to examine, create, modify or delete price point - price ladders.

Table 5-14 Price Points Worksheet Measures

Measures	Description
Price Points - Price Ladder	The list of price points for a given price ladder.

Figure 5-14 Price Points Worksheet



Diagnostics Tab

This tab is used after a price optimization or price validation run. It indicates the response of the optimizer and which constraints are relaxed to make the solution feasible or which constraint makes the solution infeasible.

This tab contains eight worksheets:

- Optimization/Verification Response worksheet
- Violated/Relaxed Items worksheet
- Violated/Relaxed Item Level Item-Specific Constraints worksheet
- Violated/Relaxed Item Group Level Item-Specific Constraints worksheet
- Violated/Relaxed Item Level Inter-Item Constraints worksheet
- Violated/Relaxed Item Group Level Inter-Item Constraints worksheet
- Violated/Relaxed Item Level Competition Constraints worksheet
- Violated/Relaxed Item Group Level Competition Constraints worksheet

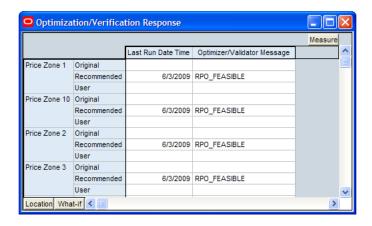
Optimization/Verification Response Worksheet

This worksheet indicates the response of the optimizer after running the price optimization or validation using the Find Constraint Violations or Optimize Prices options in the RegPrice menu. It indicates success or failure, the date and time when the last run was completed, and any recommendations, errors, or other response messages from the optimizer.

Table 5-15 Optimization/Verification Response Worksheet Measures

Measure(s)	Description
Last Run Date Time	Indicates the last date and time when an optimization or validation was run for the price validation.
Optimizer/Validator Message	This measure always displays any error or recommendation message from the optimizer or the validator.

Figure 5–15 Optimization Verification Response Worksheet



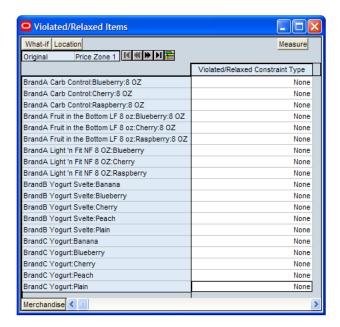
Violated/Relaxed Items Worksheet

For each validation or optimization run, this worksheet displays the item locations for which constraints were violated or relaxed. For each item location, the worksheet indicates the type of constraint, ranging constraint, and/or inter-SKU constraint that could not be satisfied or has been relaxed.

Table 5-16 Violated/Relaxed Item Worksheet Measures

Measure(s)	Description
Violated/Relaxed Constraint Type	This measure indicates whether a constraint was relaxed or violated for a given SKU. Options are
	0 (None) - No constraints were violated or relaxed.
	1 (Range Only) - A range constraint was violated or relaxed.
	2 (Inter-SKU Only) - An inter-item constraint was violated or relaxed.

Figure 5-16 Violated/Relaxed Items Worksheet



Violated/Relaxed Item Group Level Item-Specific Constraints Worksheet

This worksheet displays all item group level item-specific constraints that are related to the SKUs that have violated or relaxed constraints. Such constraints include minimum and maximum price, minimum and maximum margin, price hold, the maximum price change allowed on the item, and the treatment of an item group as a price family.

These constraints are displayed with the same values as in the Item Group Level Worksheet in the Item Constraints tab of the Price Analysis workbook. All other constraints display the measure's N/A value. This worksheet is read-only and cannot be used to modify constraints.

- 0 (None) No constraints were violated or relaxed.
- 1 (Range Only) A range constraint was violated or relaxed.
- 2 (Inter-SKU Only) An inter-item constraint was violated or relaxed.

Violated/Relaxed Item Group Level Item-Specific Constraints What-if Location Measure Max % Margin Margin 30.00 1000.00 30.00 1000.00 0.00 0.00 Hard 0.00 Hard 🔳

Figure 5–17 Violated/Relaxed Item Group Level Item-Specific Constraints

Violated/Relaxed Item Level Item-Specific Constraints Worksheet

This worksheet displays all item level item-specific constraints that are related to the SKUs that have violated or relaxed constraints. Such constraints include minimum and maximum price, minimum and maximum margin, price hold, and the maximum price change allowed on the item.

These constraints are displayed with the same values as in the Item Level Worksheet in the Item Constraints tab of the Price Analysis workbook. All other constraints display the measure's N/A value. This worksheet is read-only and cannot be used to modify constraints.

- 0 (None) No constraints were violated or relaxed.
- 1 (Range Only) A range constraint was violated or relaxed.
- 2 (Inter-SKU Only) An inter-item constraint was violated or relaxed.

Violated/Relaxed Item Level Item-Specific Constraints Price Zone 1 Price Constraint Price Hold Price Ladder Apply Margin
Min/Max Label Constraint Min/Max Price as Margin Price Margin Price BrandA Carb Control:Blueberry:8 OZ 30.00 \$9.99 н BrandA Carb Control:Cherry:8 OZ BrandA Carb Control:Raspberry:8 OZ BrandA Fruit in the Bottom LF 8 oz:Blueberry:8 OZ BrandA Fruit in the Bottom LF 8 oz:Cherry:8 OZ 30 00 1000 00 0.00 \$14.99 30.00 1000.00 30.00 1000.00 \$12.99 BrandA Fruit in the Bottom LF 8 oz:Raspberry:8 OZ 30.00 1000.00 0.00 \$9.99 None BrandA Light 'n Fit NF 8 OZ:Blueberry BrandA Light 'n Fit NF 8 OZ:Cherry 30.00 1000.00 30.00 1000.00 BrandA Light 'n Fit NF 8 OZ:Raspberry BrandB Yogurt Svelte:Banana 30.00 1000.00 0.00 \$9.99 \$16.99 \$12.99 30.00 1000.00 30.00 1000.00 randB Yogurt Svelte:Blueberry BrandB Yogurt Svelte:Cherry BrandB Yogurt Svelte:Peach BrandB Yogurt Svelte:Plain 30.00 1000.00 \$9.99 None 30.00 1000.00 30.00 1000.00 \$9.99 \$9.99 BrandC Yogurt:Banana BrandC Yogurt:Blueberry BrandC Yogurt:Cherry \$12.99 \$8.99 \$14.99 Hard 30.00 1000.00 0.00 Hard None 30.00 1000.00 30.00 1000.00 i BrandC Yogurt:Peach 1000.00 30.00 1000.00 0.00 0.00

Figure 5-18 Violated/Relaxed Item Level Item-Specific Constraints

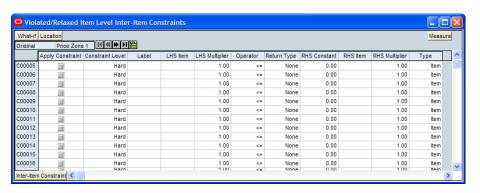
Violated/Relaxed Item Level Inter-Item Constraints Worksheet

This worksheet displays all item level inter-item constraints that are related to the SKUs that had violated or relaxed constraints.

These constraints are displayed with the same values as in the Item Level Worksheet in the Inter-Item Constraints tab of the Price Analysis workbook. All other constraints display the measure's N/A value. This worksheet is read-only and cannot be used to modify constraints.

- 0 (None) No constraints were violated or relaxed.
- 1 (Range Only) A range constraint was violated or relaxed.
- 2 (Inter-SKU Only) An inter-item constraint was violated or relaxed.

Figure 5-19 Violated/Relaxed Item Level Inter-Item Constraints Worksheet



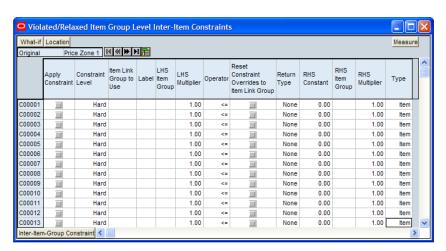
Violated/Relaxed Item Group Level Inter-Item Constraints Worksheet

This worksheet displays all item group level inter-item constraints that are related to the SKUs that had violated or relaxed constraints.

These constraints are displayed with the same values as in the Item Group Level Worksheet in the Inter-Item Constraints tab of the Price Analysis workbook. All other constraints display the measure's N/A value. This worksheet is read-only and cannot be used to modify constraints.

- 0 (None) No constraints were violated or relaxed.
- 1 (Range Only) A range constraint was violated or relaxed.
- 2 (Inter-SKU Only) An inter-item constraint was violated or relaxed.

Figure 5-20 Violated/Relaxed Item Group Level Inter-Item Constraints Worksheet



Violated/Relaxed Item Level Competition Constraints Worksheet

This worksheet displays all item level competition constraints that are related to the SKUs that had violated or relaxed constraints.

These constraints are displayed with the same values as in the Item Level Worksheet in the Competition Constraints tab of the Price Analysis workbook. All other constraints display the measure's N/A value. This worksheet is read-only and cannot be used to modify constraints.

- 0 (None) No constraints were violated or relaxed.
- 1 (Range Only) A range constraint was violated or relaxed.
- 2 (Inter-SKU Only) An inter-item constraint was violated or relaxed.

Figure 5–21 Violated/Relaxed Item Level Competition Constraints



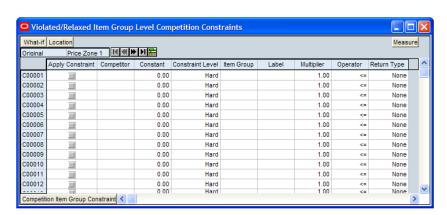
Violated/Relaxed Item Group Level Competition Constraints Worksheet

This worksheet displays all item group level competition constraints that are related to the SKUs that had violated or relaxed constraints.

These constraints are displayed with the same values as in the Item Group Level Worksheet in the Competition Constraints tab of the Price Analysis workbook. This worksheet is read-only and cannot be used to modify constraints.

- 0 (None) No constraints were violated or relaxed.
- 1 (Range Only) A range constraint was violated or relaxed.
- 2 (Inter-SKU Only) An inter-item constraint was violated or relaxed.

Figure 5–22 Violated/Relaxed Item Group Level Competition Constraints



Recommendations and What-If Tab

This tab is used to analyze price recommendations from the optimizer side by side with the what-if price overrides. These metrics include gross margin dollars, volume, revenue, and CPI. The workbook also includes the percent change from the original and recommended prices and the total number of price changes made in each case.

The Recommendations and What-if tab contain five worksheets:

- Global Metrics worksheet
- Detail Metrics worksheet
- Constraint Verification Console worksheet
- Price Entry worksheet
- What-If Selection for Scenario worksheet

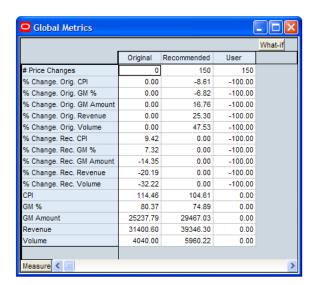
Global Metrics Worksheet

This worksheet is used to compare demand group level metrics for the original, recommended, and what-if cases. These metrics include gross margin amount, volume, revenue, and CPI.

Table 5-17 Global Metrics Worksheet Measures

Measure	Description
# Price Changes	Total number of price changes made. This number is compared to original prices.
% Chg Orig. CPI	The percent change in CPI for the original price.
% Chg Orig. GM%	The percent change in GM% for the original price.
% Chg Orig. GM Amount	The percent change in GM Amount for the original price.
% Chg Orig. Revenue	The percent change in Revenue for the original price.
% Chg Orig. Volume	The percent change in Volume for the original price.
% Chg Rec. CPI	The percent change in CPI for the recommended price.
% Chg Rec. GM%	The percent change in GM% for the recommended price.
% Chg Rec. GM Amount	The percent change in GM Amount for the recommended price.
% Chg Rec. Revenue	The percent change in Revenue for the recommended price.
% Chg Rec. Volume	The percent change in Volume for the recommended price.
CPI	Demand group level CPI.
GM%	Demand group level gross margin percent.
GM Amount	Demand group level gross margin amount.
Volume	Demand group level volume.
Revenue	Demand group level revenue.

Figure 5–23 Global Metrics Worksheet



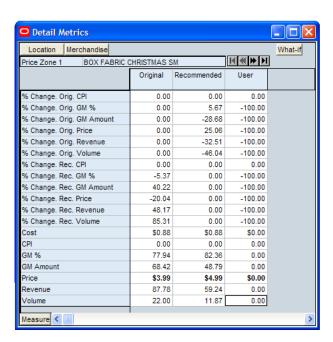
Detail Metrics Worksheet

This worksheet allows the user to observe the item level decision variables for each what-if case side by side. These variables include the item cost, anchor price, original price, recommended price, and the prices for each what-if case side by side with a percent ratio indicating how each what-if case differs from the original and from the optimizer recommendation. These variables also include each item contribution to the gross margin dollars, volume, and revenue and how each what-if case compares to the values with original and recommended prices.

Table 5-18 Detail Metrics Worksheet Measures

Measure	Description
% Change Orig. GM%	The percent change in GM percentage for the original price.
% Change Orig. GM Amount	The percent change in GM amount for the original price.
% Change Orig. Price	The percent change in price for the original price.
% Change Orig. CPI	The percent change in CPI for the original price.
% Change Orig. Revenue	The percent change in revenue for the original price.
% Change Orig. Volume	The percent change in volume for the original price.
% Change Rec. GM%	The percent change in GM percentage for the recommended price.
% Change Rec. GM Amount	The percent change in GM amount for the recommended price.
% Change Rec. Price	The percent change in price for the recommended price.
% Change Rec. Revenue	The percent change in revenue for the recommended price.
% Change Rec. Volume	The percent change in volume for the recommended price.
Cost	Item cost.
GM%	Item gross margin percent.
GM Amount	Item gross margin amount.
Price	Item price.
Revenue	Item revenue.
Volume	Item volume.

Figure 5-24 Detail Metrics Worksheet



Constraint Verification Console

The Constraint Verification Console worksheet is used to determine if any the prices entered in the Price Entry worksheet are valid for the constraints established at the global, item, and item group levels.

Table 5–19 Constraint Verification Console Worksheet Measures

Measures	Description
Validation What-if	Allows the user to select the what-if case in order to check the price validation.

Figure 5-25 Constraint Verification Console Worksheet



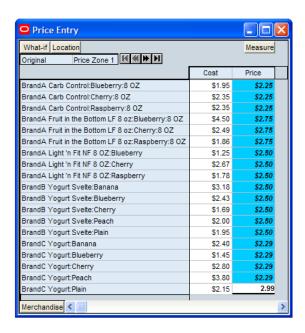
Price Entry Worksheet

This worksheet is used by the analyst to override prices. Even though the user is allowed to edit the original and the recommended prices in this worksheet, these edits are discarded for all calculations.

Table 5–20 Price Entry Worksheet Measures

Measures	Description
Cost	A display-only measure to help guide the user in deciding price overrides.
Price	The user-defined price for an item.

Figure 5-26 Price Entry Worksheet



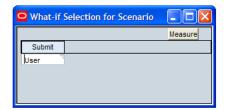
What-if Selection for Scenario Worksheet

Use this worksheet to select and commit a what-if case to the domain for scenario comparison.

Table 5–21 What-if Selection for Scenario Worksheet Measures

Measures	Description
Submit	The what–if case to submit.

Figure 5-27 What-if Selection for Scenario Worksheet



Cross-Item Elasticities Tab

This tab is used to maintain cross-item elasticities which represent the effect of price on volume for items whose demand is correlated with a certain item. Cross-item elasticities are usually loaded and are used during the optimization.

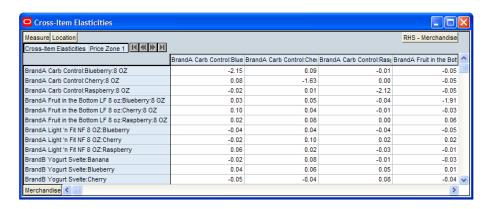
Cross-Item Elasticities Worksheet

This worksheet is used to examine cross-item elasticities.

Table 5-22 Cross-Item Elasticities Worksheet Measure

Measure	Description
Cross Item Elasticities	Displays the cross-item elasticities for all items.

Figure 5–28 Cross-Item Elasticities Worksheet



Price Analysis Sample Workflow

The following sections provide a sample workflow for the Price Analysis workbook.

Creating a What-if Case

By default, the Recommendations and What-if tab has one what-if case already defined which is named "User." To create additional what-if cases, perform the following:

- After building the Price Analysis workbook, open the **Recommendations and** What-if tab. Open the Global Metrics worksheet.
- **2.** Right-click the What-if hierarchy.
- 3. Select Maintain Positions Add Position.
- 4. In the **Dynamic Position Maintenance** window, click the What-If field. The **Position Description** window will appear.
- **5.** In the **Position Name** field, enter a position name.
- In the **Position Label** field, enter a position label.
- 7. Click OK.

Optimizing Prices for the Recommended Scenario

Before entering prices for the what-if cases you created above, it is recommended that you run the optimizer to optimize prices for the recommended scenario.

To optimize prices:

- From the menu, select **RegPrice Optimize Prices**.
- A notification window opens displaying a success message. Click **OK**.

Entering Prices

After creating a what-if case, you can enter prices for that case within the Price Entry worksheet.

In the Price Entry worksheet, you have the ability to enter prices for the default user what-if case or any other what-if case you have created. Use the arrow buttons at the top of the window to navigate past the original and recommended what-if cases (as shown below).

Price Entry What-if Location Measure Price Zone 1 M ≪ > ► Original Price Cost BrandA Carb Control:Blueberry:8 OZ \$1.95 \$2,25 BrandA Carb Control:Cherry:8 OZ \$2.35 \$2.25 BrandA Carb Control:Raspberry:8 OZ \$2.35 \$2.25 BrandA Fruit in the Bottom LF 8 oz:Blueberry:8 OZ \$4.50 \$2.75 BrandA Fruit in the Bottom LF 8 oz:Cherry:8 OZ \$2.49 \$2.75 BrandA Fruit in the Bottom LF 8 oz:Raspberry:8 OZ \$1.86 \$2.75 BrandA Light 'n Fit NF 8 OZ:Blueberry \$1.25 \$2.50 BrandA Light 'n Fit NF 8 OZ:Cherry \$2.67 \$2.50 BrandA Light 'n Fit NF 8 OZ:Raspberry \$1.78 \$2.50 BrandB Yogurt Svelte:Banana \$3.18 \$2.50 \$2.50 BrandB Yogurt Svelte:Blueberry \$2.43 BrandB Yogurt Svelte:Cherry \$1.69 \$2.50 BrandB Yogurt Svelte:Peach \$2.50 \$2.00 BrandB Yogurt Svelte:Plain \$1.95 \$2.50 \$2.29 BrandC Yogurt:Banana \$2.40 BrandC Yogurt:Blueberry \$1.45 \$2.29 BrandC Yogurt:Cherry \$2.80 \$2.29 BrandC Yogurt:Peach \$3.80 2.99 BrandC Yogurt:Plain \$2.15 Merchandise <

Figure 5-29 Entering Prices for a What-if Scenario Using the Price Entry Worksheet

To enter prices:

- From the **Recommendations and What-if** tab, open the **Price Entry** worksheet. Use the arrows (as shown above) to navigate to the "User" what-if case or to a what-if case you have created.
- Using the Price column, enter prices by clicking into the cell of the product whose price you wish to modify.
- After entering prices, click **Calculate**.
- From the **File** menu, select **Commit Now**.

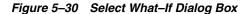
Finding Constraint Violations Using the Constraint Verification Console

Use the Constraint Verification Console worksheet within the Recommendations and What-if tab to determine if any of the prices you entered in the previous section are valid for the constraints that you established at the global, item, and item group levels.

Before using the constraint verification console, you must first select a what-if case for use within the verification console. The verification console checks for constraint violations using one what-if case at a time. If you have created multiple what-if cases, you will need to repeat this process for each of them.

To select a what-if case:

- From the Price Analysis workbook, select the Recommendation and What-if tab.
- 2. Open the Constraint Verification Console worksheet.
- Click the Validation What-if field. The Select What-If dialog box opens as follows:





- Click a what-if case to select it. Click **OK**.
- From the RegPrice menu, select Find Constraint Violations.
- To view constraint violations, open the **Optimization/Verification Response** worksheet in the **Diagnostics** tab.
- For the constraints that you established, review the corresponding worksheets within the **Diagnostics** tab to review the violations.

Selecting a What-if Case for Scenario

After creating what-if cases and validating those cases using the Find Constraint Violations feature, you can select a what-if case to use later within the Scenario Comparison workbook.

> **Note:** Only one what-if case can be submitted for use in the Scenario Comparison workbook. If you select a different what-if case and submit it after previously submitting another, the previous what-if selection will be overwritten with the new one.

To select a what-if case for a scenario:

- From the Recommendations and What-if tab, open the What-if Selection for Scenario worksheet.
- From the axis labeled Submit, click once on a what-if case. The **Select What-if** window opens listing all available what-if cases.
- Click once on the desired what-if case to select it. Click **OK**.
- Click Calculate.
- From the **File** menu, select **Commit Now**.

Like-Items Workbook

The Like Item workbook is used to give parameters to new items by assigning like items. When a new item is assigned a like item, the user can selectively copy demand, cost, and price information from the like item.

This workbook contains one worksheet:

Like Item worksheet

Building the Like-Items Workbook

In order to build the Like-Item workbook, you must use the Like-Item wizard. To use the wizard:

- Select **File New** or click the **New** toolbar button.
- From the **RegPrice** tab, select the **Like Item** workbook, and click **OK**. The Like Item wizard opens.
- Select the items that you wish to include in the workbook. These items should include both the new items and the like items that you wish to associate the new items with. Click Next.
- Select the price zones or stores for which you want the demand parameters to apply to. Click **Next**.
- Select the weeks that you wish to include. The weeks you select do not have to be consecutive. Click Finish to open the Like Item workbook

Like-Items Worksheet

This worksheet allows you to select a like item and choose which parameters you would like to apply to the new item: cost, price, base demand, demand group, or price elasticity.

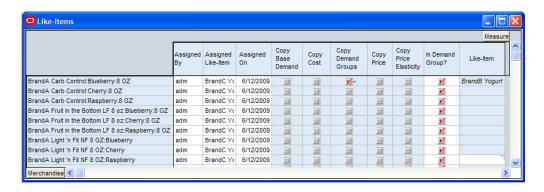
Table 6-1 Submit Prices Worksheet Measures

Measure	Description
Assigned By	The person who assigned the like item to the item.
Assigned Like-Item	The like item that was assigned to the item.
Assigned On	The date that the like item is assigned to the item.
Copy Base Demand	Select the check box next to this item to indicate that you want to use the item's base demand.

Table 6–1 (Cont.) Submit Prices Worksheet Measures

Measure	Description
Copy Cost	Select the check box next to this item to indicate that you want to use the like item's cost.
Copy Demand Groups	Select the check box next to this item to indicate that you want to use the like item's demand group(s).
Copy Price	Select the check box next to this item to indicate that you want to use the like item's price.
Copy Price Elasticity	Select the check box next to this item to indicate that you want to use the like item's price elasticity.
In Demand Group?	This check box indicates that the item belongs to some demand group(s).
Like-Item	Identifies the like item you wish associate with the new item.

Figure 6-1 Like-Items Worksheet



To assign like items:

- 1. In the Like-Items worksheet, locate the item that you would like to assign a like item to. In Like-Item column for that item's row, click the cell. The Select Item window will appear. Select the item that you would like to use as the like item. Click OK.
- **2.** Select the attributes of the like item that you want to use for the item. You may choose Copy Base Demand, Copy Cost, Copy Demand Groups, Copy Price, and/or Copy Price Elasticity.
- In the **RegPrice** menu, select Copy Items.
- From the **File** menu, select **Commit Now**.

The next time you open the Like Item worksheet, it will display the username of the person who assigned the like item assignment, the like item assigned, and the date that it was assigned.

Scenario Comparison Workbook

The Scenario Comparison workbook is used to compare scenarios side by side. For example, a retailer may wish to determine the impact on gross margin dollars when it competes aggressively versus unaggressively. Once different scenarios have been compared, this workbook can be used to submit final prices from a particular scenario.

This workbook contains the following worksheets:

- Global Goals and Constraints worksheet
- Global Metrics worksheet
- Item Level Metrics worksheet
- Competition worksheet
- Submit Prices worksheet

Building the Scenario Comparison Workbook

To build a Scenario Comparison workbook, begin by using the Scenario Comparison wizard. To open the wizard:

- Select **File New** or click the **New** toolbar button.
- From the **RegPrice** tab, select the **Scenario Comparison** workbook, and click **OK** to open.
- Select a demand group. Click **Next**.
- Select a planning scope. Click **Next**.
- Select one or multiple scenarios. The scenario labeled "Original" represents current prices.
- Click **Finish** to build and open the workbook.

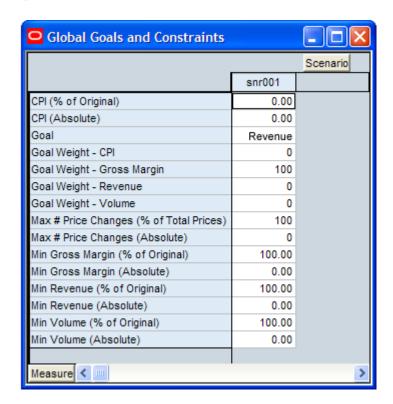
Global Goals and Constraints Worksheet

This worksheet is used to compare the context of the scenario according to the following:

- The last time the optimization was run. This is used to indicate if the scenario has been optimized or not.
- Objective function type and weights of each component.
- Scenario level constraints (for example, limits on gross margins, volume, and revenue).

Note: This worksheet uses the same measures used within the Global Goals and Constraints Worksheet of the Price Analysis workbook.

Figure 7-1 Global Goals and Constraints Worksheet



Global Metrics Worksheet

This worksheet is used to compare the overall scenario performance.

Note: This worksheet uses the same measures within the Global Metrics Worksheet of the Recommendations and What-if tab of the Price Analysis workbook.

Figure 7-2 Global Metrics Worksheet

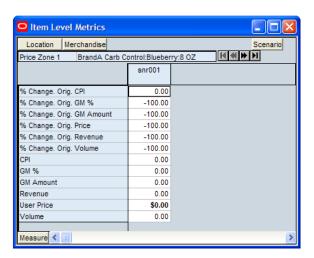


Item Level Metrics Worksheet

This worksheet is used by the analyst for comparing the scenario performance at the item level.

Note: The measures used within this worksheet are the same as those used in the Recommendations and What-If Tab worksheets in the Price Analysis workbook.

Figure 7-3 Item Level Metrics Worksheet

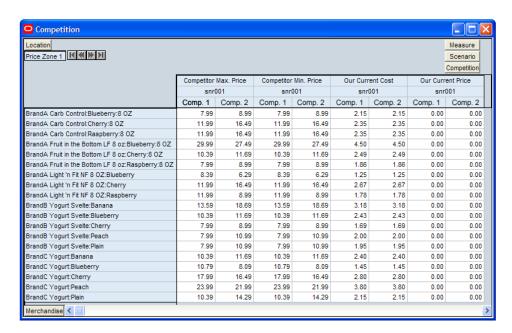


Competition Worksheet

This worksheet is used to compare each scenario's price with that of the competition. To assist with decision making, each item's cost to retailer is also available for side by side comparison.

Note: The measures used within this worksheet are the same as those listed in the Linked Competition Prices Worksheet in the Competition Constraints tab of the Price Analysis workbook.





Submit Prices Worksheet

This worksheet is used to select a scenario and invokes the Submit Prices operation.

Table 7-1 Submit Prices Worksheet Measures

Measure	Description
Submit	The scenario that must be submitted.

Figure 7-5 Submit Prices Worksheet



Submitting Prices of a Scenario

To submit prices of a scenario:

- From the **Scenario Comparison** workbook, open the **Submit Prices** worksheet.
- **2.** Click once on the name of any scenario listed on the Submit hierarchy.
- 3. The Select Scenario window opens. Click once on the name of the desired scenario, and click OK.
- **4.** From the menu, select **RegPrice Submit Scenario**.

Optimizer Administration Workbook

This workbook is used to examine optimizer parameters (e.g., minimum number of optimization passes allowed). Parameters listed within this workbook are read-only.

Overview

The Optimizer Administration workbook contains one worksheet:

Optimizer Administration worksheet

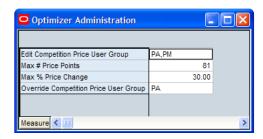
Optimizer Administration Worksheet

This worksheet is used to examine tuning parameters for the price optimization algorithm.

Table 8–1 Optimizer Administration Worksheet Measures

Measure	Description
Edit Competition Price User Group	Displays the users who are allowed to change the competition item prices for what-if.
Max# of Price Points	Limits the number of price points. This parameter is used to control the optimizer's computation time.
Max% Price Change	Stores the user entry for the maximum default price change allowed on any item. If a maximum price change percentage is not given for an item, this value is used as default.
Override Competition Price User Group	Displays the users who are allowed to change and commit competition item prices.

Figure 8–1 Optimizer Administration Worksheet



Analyst Category Assignment Workbook

This workbook is used to map pricing analysts to their categories. Price analysts can only change prices for categories that have been assigned to them using this workbook. Price analysts cannot build the Price Analysis workbook if the selected demand group includes an item that belongs to a category to which the analyst does not have permission.

Overview

This workbook contains one worksheet:

Analyst Category Assignment worksheet

Building the Analyst Category Assignment Workbook

To build the Analyst Category Assignment workbook, begin by using the Analyst Category Assignment wizard. To open the wizard:

- Select **File New** or click the **New** toolbar button.
- From the **RegPrice** tab, select **Analyst Category Administration**, and click **OK** to open the Analyst Category Administration wizard.
- **3.** From the right side of the screen, select the check box next to the name of the analyst you want to assign categories to. Click **Next**.
- **4.** On the left side of the screen, select a category to assign to the analyst.
- Click Finish. The Assign Categories to Price Analyst worksheet opens. The analyst selected from the wizard appears within the workbook.

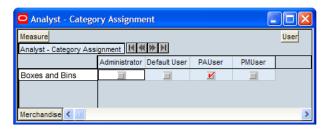
Analyst Category Assignment Worksheet

This worksheet allows the user to manually assign categories to price analysts. The worksheet does not check to see if the same category has been assigned to more than one price analyst.

Table 9–1 Analyst Category Assignment Worksheet Measures

Measure	Description
Category Analyst Management	Stores a mask that specifies the categories that a user can alter the prices for.

Figure 9-1 Analyst Category Assignment Worksheet



Adding or Removing Categories Assigned to an Analyst

To change the categories assigned to an analyst:

- 1. From the Analyst Category Assignment worksheet, locate the column where the analyst's name is listed.
- 2. Select or deselect items from the merchandise hierarchy as desired to change the categories assigned to the analyst.
- **3.** When finished, click **Calculate**.
- **4.** From the **File** menu, select **Commit Now**.

Item Link Group Management Workbook

This workbook can be used to create, modify, or delete item link groups. These item link groups can be used later in inter–item constraints.

This workbook contains one worksheet:

Item Links worksheet

Building the Item Link Group Management Workbook

To build the Item Link Management workbook, begin by starting the Item Link Group Management wizard.

- Select **File New** or click the **New** toolbar button.
- From the RegPrice tab, select the Item Link Group Management workbook, and click **Ok** to open the Item Link Group Management wizard.
- Select a demand group. Click **Next**.
- Select item link groups. Click Finish to open the Item Link Group Management workbook.

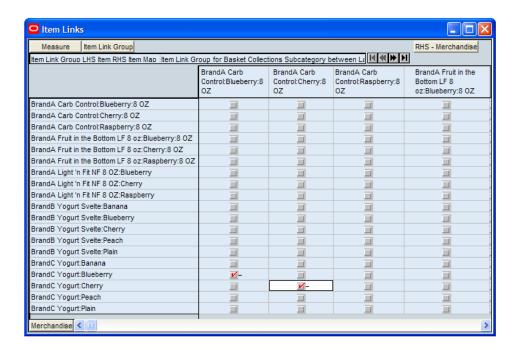
Edit Item Linkage for Item Link Groups Worksheet

This worksheet is used to examine or modify linkages for item link groups.

Edit Item Linkage for Item Link Groups Worksheet Measures

Measure	Description
Item Link Group LHS Item and RHS Item Map	Mapping between LHS items and RHS items for each item link groups.

Figure 10-1 Item Links Worksheet



Modifying Item Link Groups

To modify an item link group:

- From the Item Link worksheet, locate the item links you wish to modify.
- Use the check boxes to select or deselect an item.
- When finished, click Calculate.
- From the File menu, select Commit Now.

Demand Group - Item Group Synchronization Workbook

This workbook assists users with the process of synchronizing item group membership with demand groups. If changes are made to a demand group within the Demand Group Management workbook, those changes are not reflected within the Price Analysis workbook if the demand group is referenced there. The synchronization process will ensure that changes to the demand group are reflected in the Price Analysis workbook.

This workbook contains one worksheet:

Demand Group Item Group Synchronization worksheet

Building the Demand Group - Item Group Synchronization Workbook

To create the Demand Group Item Group Synchronization workbook, begin by starting the Demand Group Item Group Synchronization wizard as follows:

- Click **File New** or click **New** from the toolbar.
- From the RegPrice tab, select Demand Group Item Group Synchronization and click **OK**. The Demand Group Item Group Synchronization wizard opens.
- **3.** Select a demand group. Click **Next**.

Note: If you select a demand group that has no item groups associated with it, you will be forced to exit the wizard.

- Select an item group. Click **Finish** to open the workbook.
- The Demand Group Item Group Synchronization workbook opens displaying the demand group and item group memberships.
- From the RegPrice menu, select the Synchronize Item Groups option.
- Click **OK**. 7.
- From the File menu, select **Commit Now**.

Demand Group Item Group Synchronization Worksheet

This worksheet maps demand groups to item groups and checks those that are not synchronized.

Table 11–1 Demand Group Item Group Worksheet Measures

Measures	Definition
Asynchronous Item Groups	A read-only, calculated measure. Displays which item groups are no longer synchronized with the demand group function.

Figure 11-1 Demand Group - Item Group Synchronization Worksheet



Synchronizing Item Groups

To synchronize item groups:

- 1. From the **RegPrice** menu, select the **Synchronize Item Groups** option.
- A notification window opens informing you that the synchronization was successful. Click OK.

User Administration Workbook

The User Administration Workbook contains user management options for the addition, deletion or editing of user accounts. This workbook is only available to those with administrative rights.

Overview

The User Administration workbook contains five wizards:

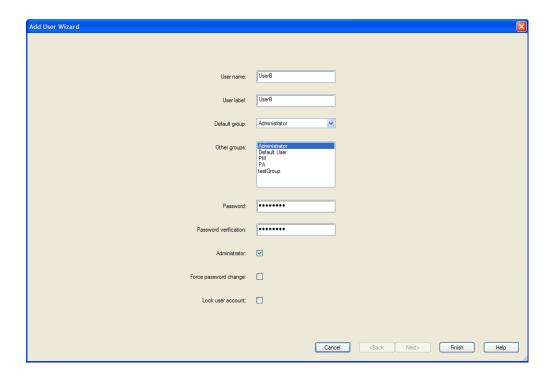
- Add User wizard
- Add User Group wizard
- Delete User wizard
- Delete User Group wizard
- Edit User wizard

Add User

Use the Add Users wizard to add a user account. To add a new user, perform the following:

- 1. Select **File New** or click the **New** button from the toolbar.
- From the User Administration tab, select **Add User**, and click **OK**. The following window opens:

Figure 12-1 Add User Wizard



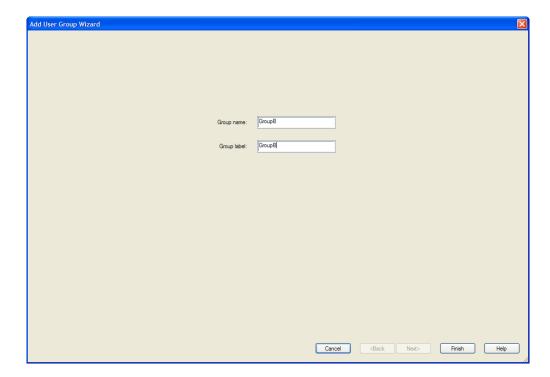
- In the **User Name** and **User Label** field, enter a name and label.
- In the **Default Group** field, select a default membership group.
- In the **Other Group** field, associate other user groups with this account.
- In the **Password** field, enter a password. Enter the same password again in the Password Verification field.
- Select the **Administrator** check box if the user is an administrator.
- Select the **Force Password Change** check box to force the user to change their password.
- **9.** Select the **Lock User Account** check box to lock the account.
- 10. Click Finish. A notification window will appear verifying addition of the account.

Add User Group

To add a new user group:

- Select **File New** or click the **New** button from the toolbar.
- From the User Administration tab, select Add User Group, and click OK. The following window opens:

Figure 12-2 Add User Group Wizard



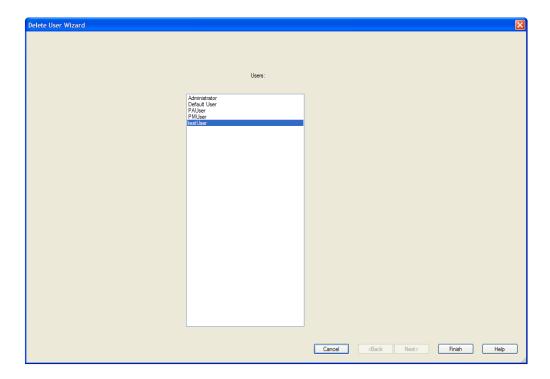
- **3.** In the **Group Name** field, enter a group name.
- In the **Group Label** field, enter a group label.
- Click Finish. A notification window opens verifying addition of the user group.

Delete User

To delete a user:

- **1.** Select **File New** or click the **New** button from the toolbar.
- From the User Administration tab, select **Delete User**, and click **OK**. The following window opens:

Figure 12-3 Delete User Wizard



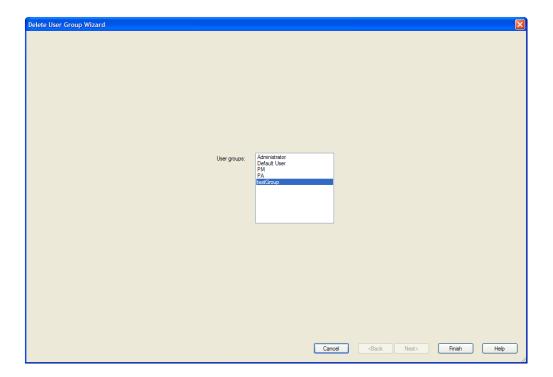
- **3.** Select a user account to delete from the list.
- **4.** Click **Finish**. A notification window opens confirming deletion of the account.

Delete User Group

To delete a user group:

- Select **File New** or click the **New** button from the toolbar.
- From the User Administration tab, select **Delete User Group** and click **OK**. The following window opens:

Figure 12-4 Delete User Group Wizard



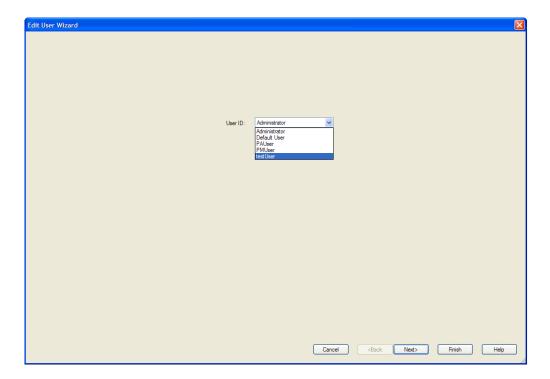
- **3.** Select the name of the user group to delete.
- Click Finish. A notification window opens confirming deletion of the user group.

Edit User

To edit an existing user account

- Select **File New** or click the **New** button from the toolbar.
- From the User Administration tab, select Edit User, and click OK. The following window opens:

Figure 12-5 Edit User Wizard



- **3.** Select a name from the list of available user accounts.
- 4. Click Next.
- You may make edits to any of the following fields:
 - User Label
 - Default Group
 - Other Groups
 - Password and Password Verification
 - Administrator
 - Force Password Change
 - Lock User Account
- **6.** After your edits are completed, click **Finish**. A notification window opens confirming modifications to the user account.

Glossary

Competition

Competition refers to the competitor's pricing for a given item. Competition is definable by item.

Demand Group

A demand group is a collection of items that should be optimized together.

Item

An item in Regular Price Optimization is merchandise that is being optimized. Items are located on the same level within the Merchandise hierarchy where the demand and cross item elasticities are produced.

Item Link Groups

Item link groups are definitions that link one item to another. They are primarily used for inter–item constraints.

Item Group

Item groups are logical groupings of items within a demand group.

Planning Scope

Identifies the begin and end dates for the planning season and price zones for which planning is being performed.

Price Zone

Price zones are store clusters that have been created to support different pricing groups by merchandise division. Pricing zones are established so all stores within the pricing zones have the same price for any single item.

Scenario

A configuration of constraints and objectives. In Regular Price Optimization, a user can create many scenarios for a given demand group and compare these scenarios side by side in terms of the decision variables to choose a set of prices that best achieve the objectives.